Parag Jain

Email: parag.jain@ed.ac.uk Web: parajain.github.io

CGPA: 8.92/10

CGPA: 8.1/10

Education

University of Edinburgh Sept 2019 - Current

CDT-NLP PhD, Natural Language Processing, Advisor: Prof. Mirella Lapata

Indian Institute of Technology Hyderabad, India

July 2013 - June 2015

M.Tech, Computer Science & Engg, Advisor: Prof. Vineeth N Balasubramanian

Thesis: Metric Learning for Clustering in Streaming Large-Scale Data - link

Collaborated with Dr. TVS Udaya Bhaskar (INCOIS, India) on Ocean Biome Classification

Awarded A+ (highest possible) for research thesis

Indian Institute of Technology Kharagpur, India

July 2012 - June 2013

M.Tech, Multimedia Information Processing

Completed one year coursework

Jabalpur Engineering College, India July 2008 - June 2012

B.E., Computer Science & Engg $\,$ CGPA: 7.5/10 $\,$

Industry Experience

Google DeepMind July 2023 - Nov 2023

Student Research Intern

IBM Research Feb 2018 - Sept 2019

Research Engineer

IBM Research Aug 2016 - Feb 2018

Research Software Engineer (FTH)

Amazon July 2015 - Aug 2016

Software Development Engineer

Teaching Experience

Tutor, University of Edinburgh Jan 2021 - Apr 2021

Natural Language Understanding, Generation, and Machine Translation

Teaching Assistant, IIT Hyderabad July 2013 - June 2015

Numerical Linear Algebra, Database Management Systems,

Advanced Compiler Design

Awards

- Travel Award by Google to present our work at ACL 2024
- Travel Award by Facebook AI Research to present our work at EurNLP 2019
- IBM Second Invention Plateau Award 2019
- IBM First Invention Plateau Award 2019
- Equity Award for *outstanding achievement* in research and development. 2018 (An individual award selected globally every year by the office of CEO of IBM.)
- IBM Research First Patent Award 2018
- \bullet IBM Research Certificate of Appreciation (for my contribution in Natural Language Generation Research) 2018
- Travel Grant by Xerox Research for attending XRCI Open, Bangalore 2016
- Finalist Amazon Idea hackathon, Hyderabad 2016
- $\bullet\,$ Travel Grant for attending the Fifth User Interaction Workshop at INCOIS, Hyderabad 2015
- Ministry of Human Resource Development Scholarship by Government of India, 2013 2015
- Ministry of Human Resource Development Scholarship by Government of India, 2012
- Selected for the prestigious All India Young Jaina Award 2010.

Tutorial

 Storytelling from Structured Data and Knowledge Graphs: An NLG Perspective Presented at the Annual Meeting of the Association for Computational Linguistics (ACL), 2019

Publications

Journal

- <u>Jain, P.</u>, Lapata, M. <u>Memory-Based Semantic Parsing</u> - (Transactions of the Association for Computational Linguistics 2021)
- Laha, A.*, Jain, P.*, Mishra, A.*, Sankaranarayanan, K.

 Scalable Micro-planned Generation of Discourse from Structured Data (Computational Linguistics Journal 2019)

 Verbalizing real-time match insights at the US Open. [US Open Article] [Times of India] [Digital Creed]

Conference Proceedings

- Jain, P., Marzoca, A., Piccinno, F

 Structsum Generation for Faster Text Comprehension (ACL 2024)
- Jain, P., Lapata, M., <u>Conversational Semantic Parsing using Dynamic Context Graphs</u> (EMNLP 2023)
- Puduppully, R., <u>Jain, P.</u>, Chen, N., Steedman, M., <u>Multi-Document Summarization with Centroid-Based Pretraining</u> (ACL 2023)
- Perez-Beltrachini, L., Jain, P., Monti, E., Lapata, M.,
 Semantic Parsing for Conversational Question Answering over Knowledge Graphs (EACL 2023)
- Mittal, A., Saha, D, <u>Jain, P.</u>, Sen, J., Jammi., M., <u>Bootstrapping Chatbot Interfaces to Databases Overnight</u> (CODS-COMAD 2021)
- Jain, P., Mishra, A., Azad, A.P. and Sankaranarayanan, K. *Unsupervised Controllable Text Formalization* (AAAI 2019)
- Surya, S., Mishra, A., Laha, A., Jain, P., Sankaranarayanan, K. Unsupervised Neural Text Simplification - (ACL 2019)
- Agrawal, P., <u>Jain, P.</u>, Dalmiya, A., Mittal, A. *Unified Semantic Parsing with Weak Supervision* (ACL 2019)
- Jain, P., Laha, A., Sankaranarayanan, K., Nema, P., Khapra, M.M. and Shetty, S.,
 A Mixed Hierarchical Attention based Encoder-Decoder Approach for Standard Table Summarization (NAACL-HLT 2018, Short Paper)
- Nema, P.*, Jain, P.*, Shetty, S., Laha, A., Sankaranarayanan, K. and Khapra, M.M.,
 Generating Descriptions from Structured Data Using a Bifocal Attention Mechanism and Gated Orthogonalization (NAACL-HLT 2018)

Workshop / Demo/ Preprint

- Jain, P., Lapata, M.,

 Integrating Large Language Models with Graph-based Reasoning for Conversational Question Answering (arxiv 2024)
- $\frac{\text{Jain, P., Agrawal, P.}}{\text{Unified Semantic Parsing with Weak Supervision (EurNLP 2019)}}$
- Jain, P., Agrawal, P., Mishra, A., Sukhwani, M., Laha, A. and Sankaranarayanan, K., Story Generation from Sequence of Independent Short Descriptions (SIGKDD Workshop ML4Creativity, 2017)
- Bharadwaj, S. et al. [and others, including <u>Jain</u>, P.]

 Creation and Interaction with Large-scale <u>Domain-Specific Knowledge Bases</u> (VLDB 2017, Demonstrations Track)
- Jain, P., Balasubramanian, V.N.

 Online Active Metric Learning for Clustering (XRCI OPEN 2016)
- Jain, P. <u>Unsupervised Metric Learning Using Low Dimensional Embedding</u> (Preprint)
- Jain, P. Metric Learning Tutorial (Preprint)

^{*} equal contribution

Selected Patents

- Mittal, A., Jain, P., Saha, D., Sen, J.

 Ontology-Based Automatic Bootstrapping of State-Based Dialog Systems US Patent App. US20190228068A1
- Khare, S., Jain, P., Dechu, S., Mani, S., Tamilselvam, S.G Enabling Tactile Senses in Digital Shopping US Patent App. US20190163272A1
- Jain, P., Azad, A.P Mishra, A., Sankaranarayanan, K.
 Unsupervised Tunable Stylized Text Transformation US Patent App. US20200034432A1
- Jain, P., Laha, A., Mishra, A., Sankaranarayanan, K.
 Generation of Variable Natural Language Descriptions From Structured Data US Patent App. US20200073944A1
- Sankaran, A., Laha, Lohia, P., Jain, P., Shrivastava, D., Agrawal, P.
 Cognitive Assistant for Co-Generating Creative Content US Patent Application No. US20200134089A1
- Laha, A., Ekambaram, V., Jain, P., Shrivastava, D.
 Displaying dynamic content on multiple devices US Patent Application No. US10664217B1
- Chemmengath, S., Jain, P., Laha, A., Krishnan, A.
 Script modification US Patent Application No. US20200125638A1
- Jain, P., Laha, A., Mishra, A., Sankaranarayanan, K.
 Structured Article Generation US Patent Application No. US11194816B2

Talks

- Structsum Generation using LLMs IIT Hyderabad, 2024
- (Invited Talk) Conversational Semantic Parsing Online International. Conference. On. Advances in Physical, Mathematical and Computational Sciences, India - 2022
- (Invited Talk) Introduction to Machine Learning Christ University Bangalore, 2018
- Metric Learning for Clustering in Streaming Large-Scale Data IBM Bangalore, 2016
- Introduction to PageRank, IIT Hyderabad, 2015

Service

- Founding team member of TEDxIITHyderabad, 2016
- I server regularly as a program Committee for ACL, EMNLP, NAACL. And have served in past for SIGKDD, Cods-Comad.
- Local coordinator for i.school workshop University of Tokyo, at IIT Hyderabad, 2015
- Student placement representative CSE Department IIT Hyderabad, 2015
- Core member of organizing team Aureole'10 Engineering Techfest, 2010

Mentorship

- Akash Kumar, Software Engineering intern at IBM (now PhD student at UCSD)
 Project: Tabular Data Summarization
- Aman Sinha, Software Engineering intern at IBM (now Research Assistant at IECL Laboratory, University of Lorraine)
 Project: Scheduled Multi-Task Learning for Semantic Parsing

Relevant Coursework

- PhD, Edinburgh Pragmatics, Controversies in the Data Society, Accelerated Natural Language Processing, Machine Learning and Pattern Recognition
- M.Tech, IITH Hadoop, Advanced Algorithms and Data Structures, Mathematics for Computing, Systems Security

Arts Education

- Diploma (VID I) Violin(Indian Classical Music) from Raja Mansingh Tomar Music & Arts University, India.
- Green Belt in Karate from Jabalpur Amateur Karate do association affiliated to Nepal Karate Do Federation.

Training and Certifications

- IBM Certified Academic Associate, -DB2 9 Database and Application Fundamentals (ID: PR1587378)
- \bullet IBM Certified Deployment professional, -Tivoli Directory Server V6.3 (ID: PR1587378)
- $\bullet\,$ Training on Computer Networking, -CMC Academy, Jabalpur (45 days)